

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

Claims 1-32 (Canceled)

Claim 33 (Currently Amended) A biochip reader for reading image data, said biochip reader comprising: of a plurality of biological samples provided as spots or an array in a two dimensional manner on a surface of a biochip; wherein said biochip reader is a microscope selected from the group consisting of a scanning confocal optical system, a non-scanning confocal optical system, and a 2-photon excitation optical system; said microscope comprising:

a microscopic optical system selected from the group consisting of a scanning confocal optical system, a non-scanning confocal optical system, and a 2-photon excitation optical system;

a light source for irradiating which irradiates excitation light simultaneously on a said plurality of samples on said biochip surface provided as spots or an array in a two dimensional manner on a surface of a biochip, and which causes said plurality of samples for causing said sample to emit fluorescent light different in wavelength from said excitation light;

a single optical detector which detects for detecting a plurality of said fluorescent light emitted by said plurality of samples as [[a]] spectroscopic information; and

a separating means comprising a grating, or dichromatic mirror or Fourier spectrometer, for causing separating said fluorescent light emitted by said samples and developing said fluorescent light to be separated and developed as said spectroscopic information at different

locations on said single optical detector according to wavelength, said spectroscopic information being developed between images of said plurality of samples,

wherein said spectroscopic information is ~~and to be~~ detected by said single optical detector in a two dimensional manner ~~at the different locations on said single optical detector.~~

Claim 34-35 (Canceled)

Claim 36 (Currently Amended): The biochip reader of claim 33, wherein said separating means separates spectroscopic information ~~is separated~~ from noise.

Claim 37 (Currently Amended): The biochip reader of claim 33, further comprising a shield having a plurality of apertures aligned with positions of each of said plurality of samples,

wherein the area of spectroscopy is restricted by said apertures ~~an aperture aligned with position of each sample part thereof.~~

Claim 38 (Previously Presented): The biochip reader of claim 33, wherein said light source comprises means for directing said excitation light to be irradiated onto one side of said biochip which is opposite to a side surface wherein said plurality of samples are arranged.

Claim 39 (New): The biochip reader of claim 33, wherein said separating means comprises a grating, dichromatic mirror or Fourier spectrometer.

Claim 40 (New) A combination, comprising:

a biochip on which a plurality of samples are provided as spots or an array in a two dimensional manner on a surface of said biochip, and

a biochip reader comprising:

a microscopic optical system selected from the group consisting of a scanning confocal optical system, a non-scanning confocal optical system, and a 2-photon excitation optical system;

a light source which irradiates excitation light simultaneously on a plurality of samples provided as spots or an array in a two dimensional manner on a surface of a biochip, and which causes said plurality of samples to emit fluorescent light different in wavelength from said excitation light;

a single optical detector which detects said fluorescent light emitted by said plurality of samples as spectroscopic information; and

a separating means for separating said fluorescent light emitted by said samples and developing said fluorescent light as said spectroscopic information at different locations on said single optical detector according to wavelength, said spectroscopic information being developed between images of said plurality of samples,

wherein said spectroscopic information is detected by said single optical detector in a two dimensional manner.

Claim 41 (New): The combination of claim 40, wherein said separating means separates spectroscopic information from noise.

Claim 42 (New): The combination of claim 40,
wherein said biochip reader further comprises a shield having a plurality of apertures aligned with positions of each of said plurality of samples,
wherein the area of spectroscopy is restricted by said apertures.

Claim 43 (New): The combination of claim 40, wherein said light source comprises means for directing said excitation light to be irradiated onto one side of said biochip which is opposite to a side surface wherein said plurality of samples are arranged.

Claim 44 (New): The combination of claim 40, wherein said separating means comprises a grating, or dichromatic mirror or Fourier spectrometer,